

I Claim

1. A method of cooking a first batch of popcorn in a heated kettle wherein kettle heating elements are controlled by an electronic control receiving a temperature responsive signal from a heat sensor on said kettle, said method comprising:

energizing said elements when said kettle is cold,

maintaining delivery of energy to said kettle until said sensor signals said control that a first temperature has been reached, and then reducing said energy,

generating a signal when said kettle reaches a second higher loading temperature, and

thereafter loading corn and oil into said kettle and popping popcorn.

2. The method of claim 1 including the step of dumping popcorn from said kettle when said kettle reaches a dump temperature substantially the same as said second temperature.

3. A method as in claim 2 including cooking a second batch of popcorn by the subsequent cooking steps of sensing a third temperature lower than said first temperature and reducing the delivery of energy to said elements upon said sensing of said third temperature and thereafter loading corn and oil into said kettle when said second higher temperature is reached.

4. A method as in claim 1 including generating a first signal observable by an operator upon said kettle's reaching said second temperature to indicate the kettle is ready for loading of corn and oil, and

a second signal upon said kettle's reaching a predetermined temperature indicating popping is complete and the kettle can be dumped.

5. A method as in claim 1 wherein said popcorn is popped in a period of about 3.0 to 3.5 minutes from the time corn and oil is loaded into the kettle to the time a predetermined dump temperature is reached and the corn is popped.

6. A method as in claim 1 wherein temperature of said kettle declines when corn and oil is loaded therein and wherein said method includes:

electronic controlling of said heating elements to cause said kettle to reach a dump temperature substantially equal to said second temperature within a time of about 3.0 to 3.5 minutes wherein popped corn can then be dumped from said kettle.

7. A method of cooking said popcorn including the method steps of electronically measuring a dose of oil for use in popping a batch of popcorn, including electronically controlling a pump for pumping a measure of oil from an oil supply into a container, the method comprising the steps of:

placing an electronic control into a learn mode,

electronically energizing said pump into a pump cycle and dispensing oil into a predetermined measured receptacle,

stopping said pump cycle when a predetermined oil measure is dispensed,

electronically recording said pump cycle, and

thereafter automatically controlling said pump to operate in subsequent cycles to dispense the same measure of oil, when said pump is energized.

8. A method of popping popcorn comprising the steps of:
heating a kettle to a first temperature and cycling the
kettle heat about said first temperature,
loading corn and oil into said kettle,
raising the temperature of the kettle to a second
predetermined kettle dump temperature in a popping cycle time
period from about 3.0 to about 3.5 minutes from the time corn and
oil is loaded into the kettle until the second predetermined dump
temperature is reached.

9. A method as in claim 8 including the step of dumping popcorn from said kettle when said second dumping temperature is reached.

10. A method as in claim 8 including generating an alarm when said second dump temperature is reached.

11. A method as in claim 8 including generating an alarm when said first temperature is reached.

12. A method as in claim 8 including the steps of generating alarms when said first temperature is reached and when said second dump temperature is reached.

13. A method as in claim 8 including automatically tilting said kettle, upon first energizing said kettle from a cold start, until said first temperature is reached to signal that said kettle is not ready to be loaded with corn and oil.

14. A method as in claim 8 including popping a plurality of popcorn types in the same kettle and comprising the further steps for a second type of corn of:

heating said kettle to a third temperature and cycling the kettle heat about said third temperature;

loading another type of corn and oil into said kettle;

raising the temperature of said kettle to a fourth predetermined kettle dump temperature in a popping cycle from said third temperature, and

wherein said first and second temperatures comprise one set of temperatures, said third and fourth temperatures comprise a second set of different temperatures and further comprising the step of selecting the first or second set of temperatures prior to initiating a popping cycle.

15. An electronic control for a popcorn popping kettle having heating elements for heating a popping surface of the kettle to pop popcorn kernels when kernels and oil are placed in the kettle and which popped kernels are then dumped from the kettle, said electronic control comprising:

a thermocouple disposed on said kettle for sensing kettle temperature;

an electronic circuit for operating said heating elements by connecting them to a source of energy in response to a first sensed temperature by said thermocouple and by disconnecting them from said source of energy responsive to a second higher sensed temperature by said thermocouple;

said thermocouple being operably interconnected to said control for activating and deactivating said elements in response to said temperatures sensed by said thermocouple to raise the temperature of said popping surface from a reduced temperature occurring when kernels are loaded thereon to a dump temperature when said kernels are substantially popped; and

wherein said predetermined temperatures are selected to cause the kettle's popping surface to reach a desired dump temperature throughout a cycle duration from popcorn kernel and oil kettle loading through popped popcorn dumping of about 3.0 to about 3.5 minutes.

16. Apparatus as in claim 15 wherein said cycle duration is substantially the same for the first batch of popcorn from a cold start as for subsequent batches of popcorn from a kettle retaining heat from prior batches.

17. The improvement of claim 15 wherein said thermocouple is disposed on a portion of said kettle removed from said popping surface, and wherein said thermocouple signals said control to activate and deactivate said heating elements in response to sensing respective temperatures as a function of said first and second predetermined temperatures.

18. The improvement of claim 15 further including an alarm operatively coupled to said electronic control for signaling

optimum time for first loading popping corn kernels and oil into said kettle and for dumping popped popcorn from said kettle at the end of a cycle when said dump temperature is reached.

19. The improvement of claim 15 wherein substantially all the kernels added to the kettle together are popped within a cycle of about 3.0 minutes to about 3.5 minutes.

20. The improvement of claim 19 wherein the popping of kernels within said dump cycle is independent of decreased energy source capacity and variations in the quantity of popcorn and oil added to the kettle from one cycle to another.

21. The improvement of claim 15 herein said heating elements are energized to raise the kettle to a higher kettle temperature upon first start from a cold kettle as compared to raising the kettle to a lower kettle temperature for subsequent cycles of popping.

22. Apparatus as in claim 15 further including an electronic control for dispensing measured amounts of oil after a first learned dispensing cycle wherein a pump is started to dispense an amount of oil into a measured receptacle and then stopped and said cycle is recorded by said control and thereafter repeated upon subsequent pump energizing to dispense like measured amounts.

23. A method of popping corn in a plurality of batches from batches of corn and oil beginning with a cold start batch and then subsequent batches, including the step of:

raising the kettle temperature after loading a subsequent batch of corn and oil to a dump temperature by energizing heat elements and heating the kettle to one rise temperature and deenergizing the elements while the kettle temperature climbs beyond said one rise temperature; and

for a cold start batch, energizing the heat elements and heating the kettle to another rise temperature higher than said one rise temperature before deenergizing said elements while said kettle temperature climbs beyond said another rise temperature.

24. A method as in claim 23 including the step of loading a first batch of corn and oil into a kettle from a cold start at a temperature higher than a dump temperature.

25. A method as in claim 24 wherein a plurality of subsequent batches of corn and oil are loaded into said kettle at a temperature substantially equal to said dump temperature.